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Interpreting Reality in the Anthropocene

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INTERPRETING REALITY IN THE ANTHROPOCENE

A Thesis

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ABSTRACT

In this paper, I would like to propose that abundant beautification techniques in contemporary nature documentaries are counterproductive when attempting to address humans' impact on our planet. By utilizing technology there could be a new way to educate ourselves about the Anthropocene on platforms such as Google Earth where one can view nature, statistics, and art by location. With limited data, learning about our effects on nature in its entirety is close to impossible but art can allow us to try and reveal new hidden connections.

INTRODUCTION

I still remember the first cited paper that I wrote in elementary school. We picked little strips of paper out of a bowl that had wide-ranging topics written on them. Written on mine was "Technology." As I flipped through an encyclopedia on the topic of technology, renderings of bustling cities with UFO shaped tops and sky trams weaving through its structures was utterly awe-inspiring. I come from a small city in the Great Plains of Texas where the city fades to flat grasslands in all areas. My father would tell me stories about our city and how far the edge has expanded over the years and I couldn't help but imagine the possibilities technology would have in store for us on that untouched land. The fantastically garish renderings of these futuristic cities overshadowed any thoughts that I might have had about the effects that such a city would have on an environment. On the other end of the spectrum, I would learn about nature from nature documentaries. Nature depicted in these documentaries were also spectacular. Animals abounded in a garden of Eden where its systems were in an untainted synchronization. Technology and nature seemed like two separate worlds at the time. Now I can't help but wonder how we learn about ourselves as a geological force in the natural world and what possibilities there could be to better experience and understand our relationship with nature in the 21st century.

Nature documentaries require high viewership in order to make up for expensive production costs which in essence requires more of a spectacle which is something that you cannot guarantee in field recordings. This forces these enterprises to utilize green screen, misleading editing, colorization, absurd foley sound effects and even staged sequences that start to render nature into an imitation of what it seeks to represent. A vast amount of production is

concealed in these documentaries[1] so the imitation of nature that we see starts to become a perceived reality. This is what Jean Baudrillard would call a Simulacrum.[2] These imitations begin to be productive in representing what the public wants to see and unproductive in representing an authentic depiction of nature's current state.

These documentaries only acknowledge our relationship and influence on nature when it is convenient. It is difficult to break this pattern of requiring a spectacle in order to pay for such high production costs but I believe that there may be alternative solutions for learning about nature and our influence on it. Nature documentaries are delivered in a single package so to speak. When making a nature documentary there's a lack of accountability when it comes to its authenticity, but what if there was a platform that let the viewer choose the context in which they would visualize our planet? With satellite imagery of our planet getting more advanced, programs such as Google Earth provide a lot of potential for visualizing nature in different ways whether it be viewing the location footage, visualizing that footage with data visualization, or visualizing it in an artistic context. These are ways of exploring nature where the viewer is in control of their experience. Accountability is shifted so that the viewer can better understand the manner in which they experience information about our planets current state.

[1] There are often scenes at the end of these documentaries where we see how camera operators obtained their footage in the field but we never see anything about applied clean up in editing, foley, green screen etc.

[2] Baudrillard, Jean. 1994. Simulacra and Simulation. Ann Arbor: The University of Michigan Press.

First, it is important to discuss the history of how we learn about nature via documentaries and how it has changed with technology. Then I would like to discuss a possible future for education relative to our relationship with nature and how we can start to visualize it in different ways. My artwork is heavily based off of research about the documentary and what we consider to be authentic so in order to be clear I must talk about the history of documentation.

With the advent of the camera, scientists such as Etienne-Jules Marey utilized this technology in order to ascertain objective fact. He used the camera as a tool for science in order to learn about the physiology of birds in flight, but as time moved on use of the camera would heavily shift to the entertainment industry.

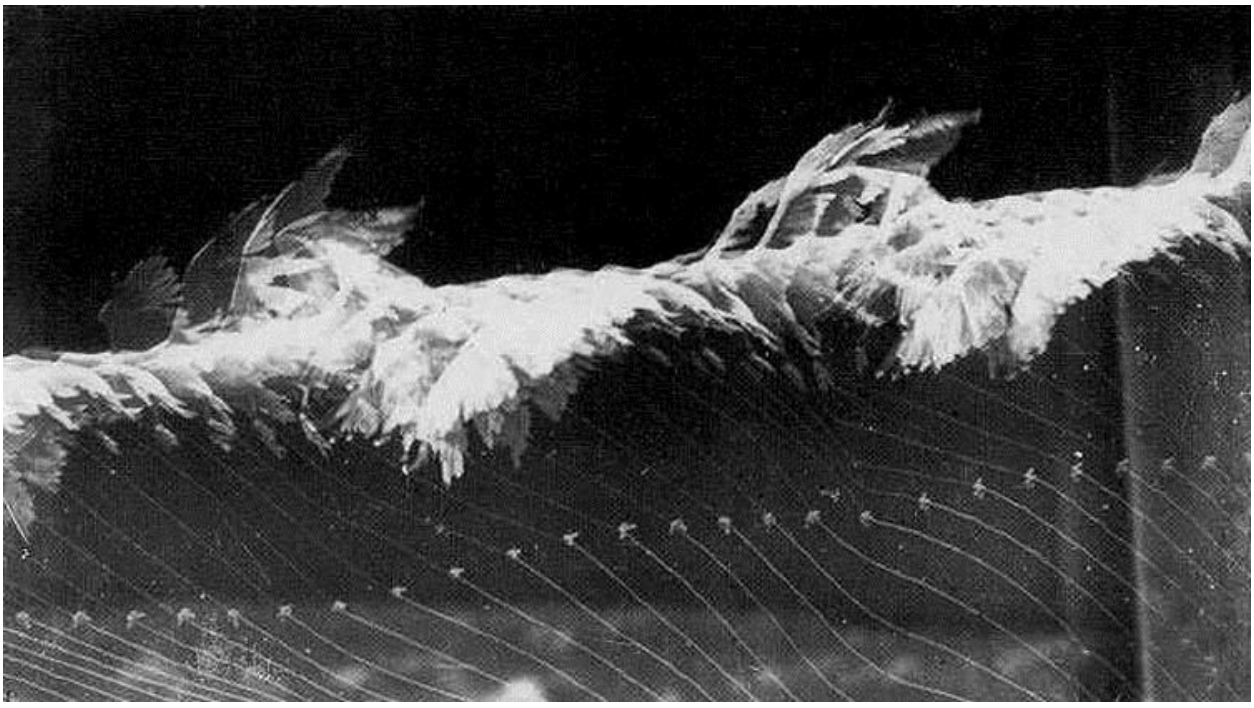

Fig 1. Etienne-Jules Marey, “Flight of gull,” 1886

As Gregg Mitman states in “Cinematic Nature: Hollywood Technology, Popular Culture, and the American Museum of Natural History."

> Hollywood had decisively defined the terms in which the medium would be used, seen, and understood, and no one who partook of this technology could evade its influence. In the filming of behavior, the distinctions between science, art, and entertainment are thus blurred. In the visual representation, the natural object is transformed simultaneously into data and entertainment. And the audience no longer sees the film as artifice, as a constructed sequence of edited shots where authenticity is shattered, for the photograph participates in the rhetoric of objectivity, representing a fact frozen in time.[3]

Here, Mitman focuses on the epicenter of the problem concerning authenticity in a documentary. The problem starts when scientist start to see edits in film that worry them about the objectivity of the subject being documented, but as we will see later technological advancements in film only complicate matters further. The entertainment industry quickly learned how to utilize this blur between science, art, and entertainment as it starts to manifest itself into what I would consider inauthentic documentary due to its strict priority to entertainment while it presents itself as a truthful experience.

Disney was one of the first companies to create a nature documentary for mass audiences and classrooms. It attempted to mix objective footage and entertainment with their "True-Life" nature films. These films were shown throughout classrooms for decades as a means for learning about nature although Walt Disney repeatedly mentioned that the films primary importance was for entertainment. Prior to making these modern-day nature documentaries, it should be noted that the idea to make them was based on the fact that they were much cheaper than an animated feature and that they could utilize much of the stock film that they obtained for use by the animators of films such as "Bambi."(Fig.2)

[3] Gregg Mitman. "Cinematic Nature: Hollywood Technology, Popular Culture, and the American Museum of Natural History." Isis 84, no. 4 (1993): 637-61

Fig 2. Study for Disney's "Bambi," 1942

According to Scott Macdonald,

> Disney made sure that the films that developed out of this cinematic research were as carefully constructed and entertainment-driven as any film produced by a Hollywood studio. While the Disney nature films may have seemed to their first audiences as devoid of politics or ideology as the early Silly Symphony cartoons, these films promoted not only particular attitudes toward family life and gender, but a deep complacency about the history of Manifest Destiny and modern middle-class life. Indeed, for all their charm and beauty, the True-Life Adventures can seem as ideologically motivated as Animal Farm to a contemporary viewer.[4]

With this in mind, it is easy to see just how much we can project onto nature and how difficult it is to experience it in an unbiased and meaningful way. In contemporary nature documentaries,

[4] Macdonald, Scott. "Up Close and Political: Three Short Ruminations on Ideology in Nature Film." Film Quarterly 59, no. 3 (2006): 4-21

the problem is less with adding ideology, but more so with the beautification techniques that it utilizes in order to create a spectacle for higher viewership. It is implied in these documentaries that everything that we see is an authentic depiction of nature. It has become commonplace for these documentaries to green screen out (for example) animal tags, fences, and roads.[5] If these documentaries are advertising objectivity then it is their duty to represent it at all times and not only when it is convenient.[6] This objectivity includes representing the Anthropocene as we must not disclude ourselves from nature when we have influence over two thirds of the planet. These beautified scenes create a sense to the viewer that much of the planet is still in spectacular shape. Of course, it would be difficult for there to be shots of nature next to roads, trash, bridges (for example) but the degree that these documentaries augment the original image escape authenticity in their depictions.

[5] Macdonald, Scott. "Up Close and Political: Three Short Ruminations on Ideology in Nature Film." Film Quarterly 59, no. 3 (2006): 4-21

[6] Some nature documentaries will acknowledge the Anthropocene at the end of their documentaries but only for a brief moment of time.

AUTHENTICITY IN DOCUMENTARY

There has been a lot of debate over what can be considered an authentic documentary. In the 1960's the Cinéma Vérité documentary movement set out to only document "the truth." There are however, many problems when attempting such a feat. The director is (usually) limited to recording only a small portion of the space being documented, subjects being documented might react differently in the presence of a camera, and editing the footage all contribute to manipulated information. As Richard Blumenberg mentions in his journal "Documentary Films and the Problem of Truth," "In any medium in which selection or manipulation is done, strict objectivity is not possible."[7] He asserts that what should be sought after in place of impossible objectivity is authenticity. On the other side of the spectrum in documentary filmmaking is what Werner Herzog calls the "Ecstatic Truth." The Ecstatic truth seeks to present authenticity by trying to invoke deeper and more meaningful truths by utilizing poetry in its approach to cinematic language. It allows itself many liberties in cinematography, editing and scripting documentary so that it can unveil things that are usually very difficult to depict. On the BBC Earth website, there is an article on their filming techniques that addresses their use of graphics in their documentaries titled "Using Graphics when Making Wildlife Films" where they use the term "illuminated" by promoting that "Computer generated images (CGI) compositing and the re-touching of images can sometimes give a useful and illuminating perspective on how the natural world works."[8] The problem is that most nature documentaries utilize these embellishments to the degree that the nature that we see on screen is rendered into a doctored

[7] Macdonald, Scott. "Up Close and Political: Three Short Ruminations on Ideology in Nature Film." Film Quarterly 59, no. 3 (2006): 4-21

[8] British Broadcasting Corporation. 2016. Using Graphics when Making Wildlife Films. April 29. Accessed February 3, 2019. http://www.bbc.com/earth/story/20160311-using-cgi-to-help-our-understanding-of-the-natural-world.

simulacrum of our environment which misleads audiences of its current state. Authenticity in nature documentaries is essential as these films are rooted in science and education. So, how can they maintain this high-level of authenticity while also maintaining a large viewership for production costs? This unsurprisingly proves to be very difficult. Documentary that allows a user to choose the context in which they would like to understand reality in the Anthropocene is something I'm in interested in exploring through my work. This allows for a much larger scale for the viewer to experience the Anthropocene from rigid data, to contextualized data that provides much more room for poetry and art.

ART AND NATURE DOCUMENTARY

Satellite imagery is getting much more advanced and this can lead to many new possibilities of viewing nature and our effects on it. There are satellite visualization tools that have features where users can narrate and guide viewers on a tour wherever they want. They have lists where users can choose topics that they would like to view such as those related to Greenpeace where one can see areas on our planet that have been deeply affected by our impact on it. One can visualize how the planet has changed over time by way of older satellite imagery. This opens up many possibilities for a new kind of interactive documentary where the user has the ability to choose if what they are seeing is more of an objective truth or more of a poetic one that seeks to unfold a deeper meaning. Lidar (Light Detection and Ranging) provides a good example for a technology that allows artists to utilize data in many ways. This technology uses laser beams to map the distances of many points in relation to the sensor in order to gain data that can be contextualized in a myriad of ways. The images that they produce often already fit into a balance between rigid data, and art as seen in this image of meltwater from a glacier captured by Lidar technology.

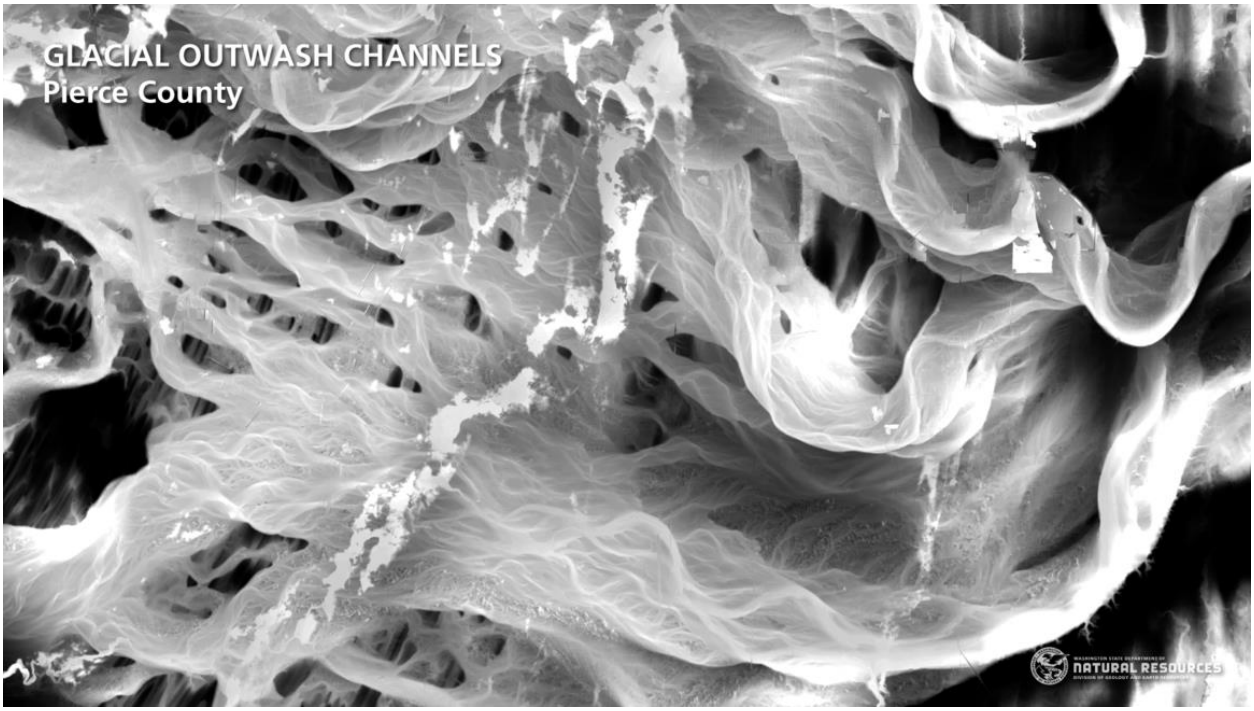

Fig 3. Washington Department of Natural Resources, 2015

The Anthropocene is an incredibly difficult thing to visualize as it's scope is so vast and complicated that we are simply in the dark with many data points but I believe that this is an area where art can be very fruitful in enriching our knowledge of what it means to be not only a biological entity but also a geological one as we use technology to shapeshift our planet. As Chakrabarty speculates "To call human beings geological agents is to scale up our imagination of the human." (four theses 206) Chakrabarty mentions that it is extremely difficult if not impossible to holistically experience ourselves as a geological force.(postcolonial studies 43) Satellite imagery mostly dating back to the 70's aids us with a tool to visualize our impact on the planet, but there is still a vast amount of information that can only be imagined due to limited data points. This is one of the many areas where art that utilizes something like the "Ecstatic Truth" can be very valuable. Kino-Pravda (meaning "film-truth") was an early documentary movement that used bits and pieces of reality to shape what members believed was a deeper truth through the art of editing. Utilizing the bits of data that we can access in context to the

Anthropocene might prove to be fertile land for artists to piece together more of a poetic truth that can shed more insight into ourselves as a geological force throughout history. This, however, is not to say that we should only try to artfully piece together our geological effects on this planet through history but that we can also artfully piece together unseen connections between ourselves and nature in the present time. Technology has allowed us to gain so much data in the present that we are still way behind when it comes to contextualizing it.

With this interface we get to interactively choose the manner of authenticity in which we digest information that ends with more of a clear understanding of our effects on Earth. The visual art that I have made in my show is meant to reflect the city of Baton Rouge hybridized with nature. My first artworks for the show represent what nature might look like in Baton Rouge if millions of years of evolution in local bird species were to be condensed into a brief moment. This is my attempt at "scaling up our imagination" of our relationship with nature (fig.4 - fig.7).

EXHIBITING THE ANTHROPOCENE: PROCESS AND METHODOLOGY

In this section I will showcase my process and work that tie into the concepts that I have outlined in the sections above.

Fig 4. “Generated Birds of Baton Rouge 1,” 2019

Fig 5. “Generated Birds of Baton Rouge 2,” 2019

Fig 6. “Generated Birds of Baton Rouge 3,” 2019

Fig 7. “Generated Birds of Baton Rouge 4,” 2019

I found birds to be an ideal animal to focus on for their shared relationship with the wild, and urban cities. The color and shape of their plumage rely heavily on their habitat(s). An article published in 2009 posits that something as little as bird feeders can have a large effect on the

appearance of the birds by speeding up evolution due to their change in migratory patterns.[9] Birds analyzed in this study show that the birds that changed their migratory pattern in order to get to bird feeders evolved to have rounder wings, and narrower beaks with different color of plumage and beaks. The birds have not branched off into separate species yet but they might be headed in that direction. In my work, I set out to attempt to imagine this effect as this rapid acceleration of evolution in birds is still quite slow and difficult to see on a large scope. Again to reference Chakrabarty, we need to widen our scope of imagination when interpreting the vast amount of changes that we inflict on the wild. My method to create these images (fig. 4-7) was to walk around Baton Rouge to obtain over 350 images of the environment (fig. 8, 9, 12). Afterwards, I generated feathers in a program called Houdini. The software is based on a procedural workflow which enables me to edit parameters in order to get a high degree of variance in the 3D model. I used birds from the surrounding area of Baton Rouge for a basepoint in which to model the feathers so that I could try and portray a hidden connection between the city and Baton Rouge's natural surrounding areas.

[9] Rolshausen, Gregor, Gernot Segelbacher, Keith A. Hobson, and H. Martin Schaefer. 2009. Science Direct. December. Accessed March 22, 2019. https://www.sciencedirect.com/science/article/pii/S0960982209019253.

Fig 8. Photo of texture in Baton Rouge, 2019

Fig 9. Photo of texture in Baton Rouge, 2019

For example, in Fig.10 I researched the Louisiana Waterthrush in order to try and get at least a loose idea of the birds' feather shape.

Fig 10. Louisiana Waterthrush, 2018

This is when I began utilizing Houdini in order to try and imagine what a bird might look like if it quickly evolved to the inner city of Baton Rouge. This inner city environment has much larger variance in color and saturation as well as a lot more pattern and design evident in things such as advertising, graffiti, signage (for example) as compared to wild flora and fauna in the surrounding areas. This led me to believe that a rapid acceleration of evolution in the birds might lead to a wider scope of shape and color in differing bird species due to many species dependences on camouflage, and in this case perhaps more rapid or slow movement depending on which part of the city they inhabit. Admittedly this is all very speculative, but my goal is

simply to get viewers to engage in their imaginations in context to our relationship with wildlife in urban environments. In Houdini, I am able to manipulate the length, width, amount of barbs, curvature as well as rot and clumping of the birds' feather.

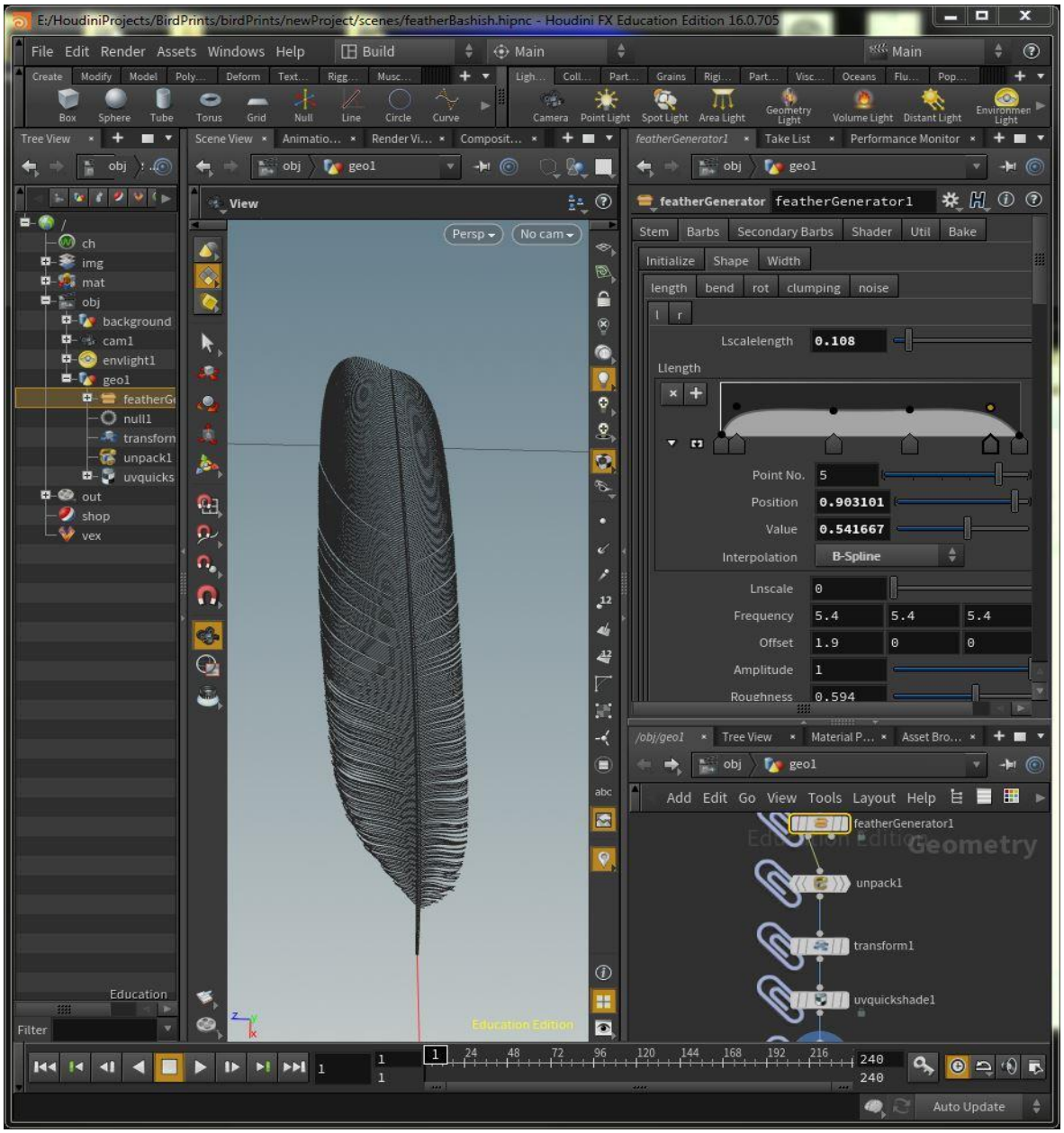

Fig 11. Feather construction in Houdini, 2019

Finally, I then select one of the 350 images that I documented in downtown Baton Rouge that generally fits the aesthetic of the Louisiana Waterthrush, and apply the texture onto the generated feather.

Fig 12. Photo of texture in Baton Rouge, 2019

Fig 13. Example of feathers generated in Houdini, 2019

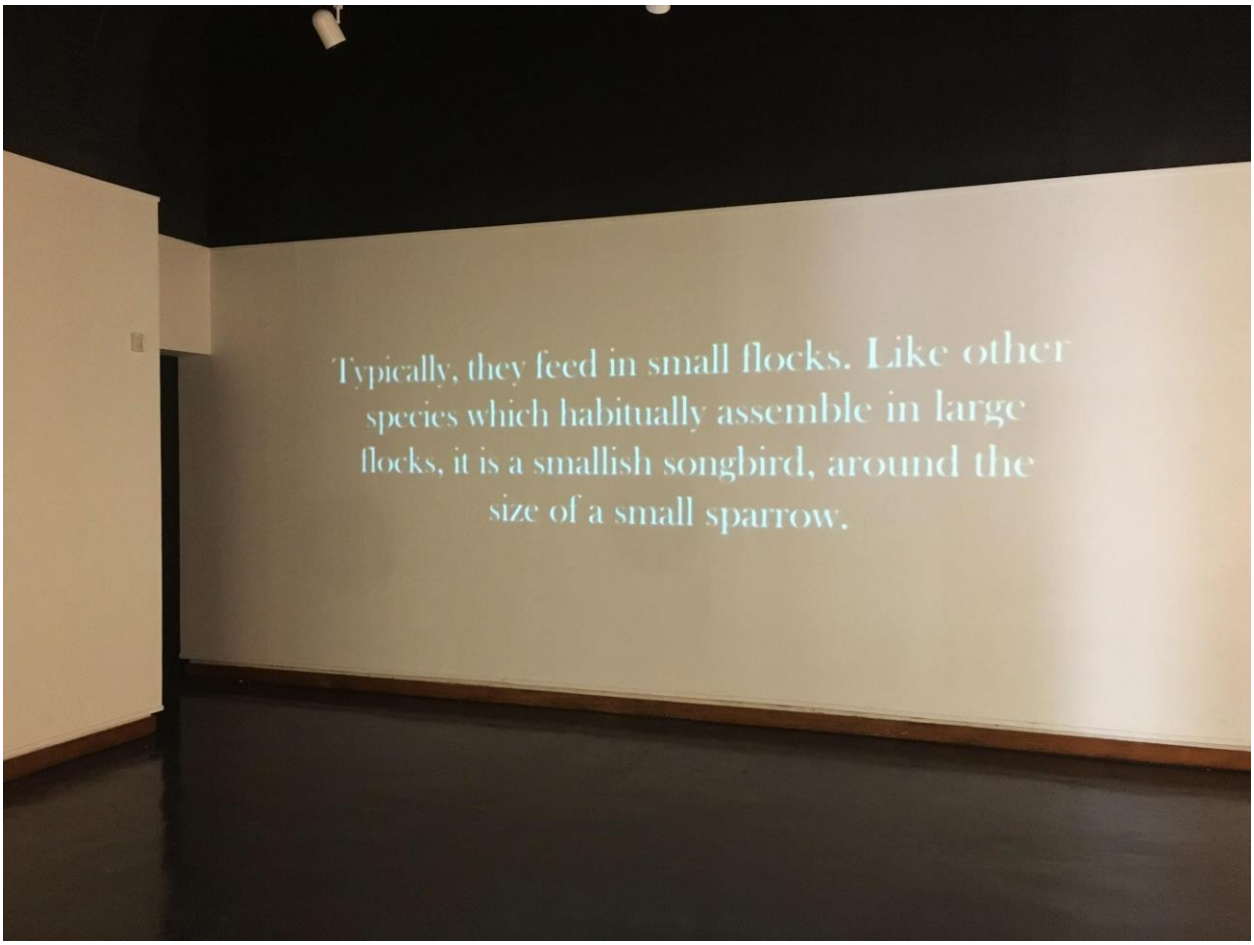

Fig 14. Hybridized descriptions of Louisiana birds, 2019

In fig. 14 I used some open source code that utilizes a Markov Chain to generate similar syntaxes through large bodies of text. I decided to research descriptions of urban birds in the first body of text, and descriptions of non-urban birds for the second body of text. What is generated is a hybrid of the two bodies of text which offers an imagined new species of bird that is caught between two worlds. In this element of the show I sought to have the viewer imagine what these birds might look like by attempting to amplify the inherent subjectivity involved in the written word. By doing this, I hope to widen the scope of viewers' imagination of the potential for new species at the edge of urban cities.

Fig 15. Simulated murmuration of birds projected onto gallery walls, 2019

Fig 16. Simulated murmuration of birds projected onto gallery walls, 2019

In figures 15 and 16 I set up an experience for the viewer to interact with dynamically. I set up four projectors to image a simulation of a bird murmuration. Audio in the space involves recorded sounds of an actual murmuration along with changing white noise interwoven

throughout. My goal was to create something that felt synthetic but moved naturally in order to have the viewer question the nature of the imagery supplied.

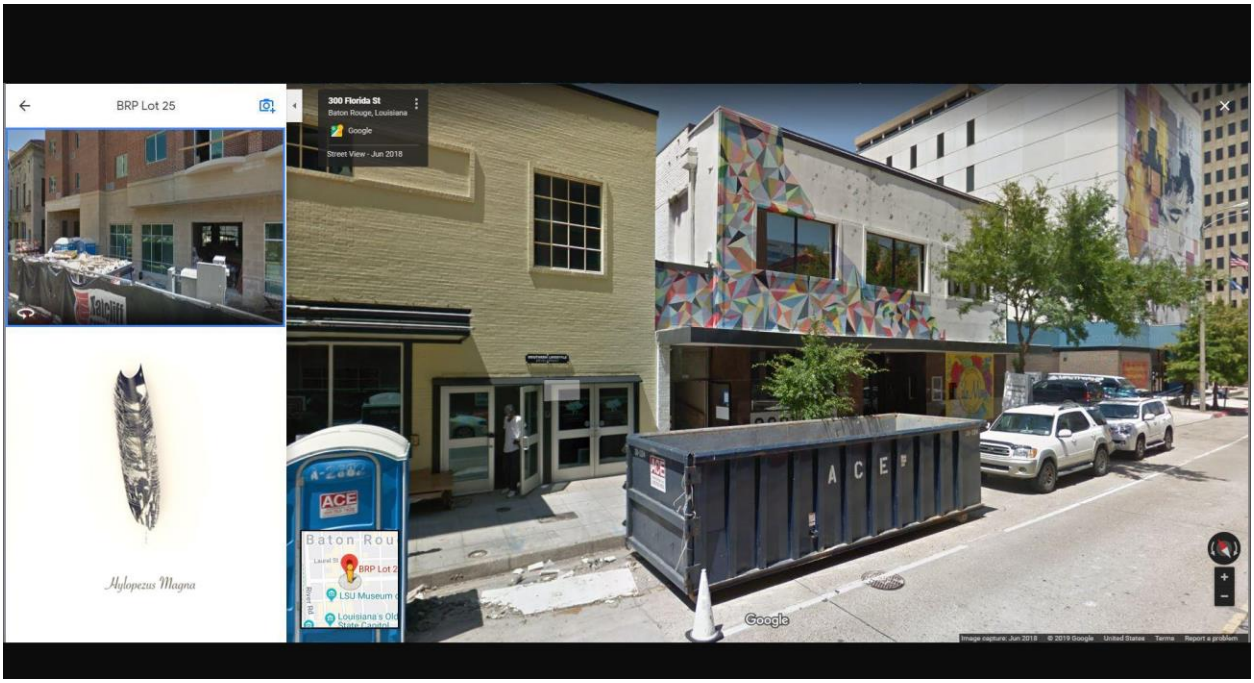

Fig 17. Mock-up of bird feathers relevant of source image location on Google Maps, 2019

The above image shows a mock-up of augmented feathers located in google maps of where they were taken. At the time of this writing they were still pending approval from Google to be added. Hypothetically speaking, these images would be able to be accessed on Google Earth after selecting an "Art in the Anthropocene" subsection. Interactive platforms such as these will give a chance for the user to have agency over the degree of authenticity that they will experience while learning about nature and our relationship with it.

CONCLUSION

This work will soon be available on Google Earth and Google Maps for users who choose Baton Rouge as a location. It's an attempt to reflect the “Ecstatic Truth” that resonates with the user, the wildlife, and the burgeoning technological interfaces or lenses through which we now experience our environments. The future of nature documentaries is an authentic depiction of the state of our environment.

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VITA

Jake Hamill is a digital artist originally from Texas. He has a background in drawing and painting but has since adapted his work into the digital arts. He plans on continuing his research in science and interactive media in order to attempt to inspire viewers to constantly question their surroundings.